

macdonald



journal



★ **Consumer Education In The High School**

★ **Improved Crop Varieties**

May, 1964

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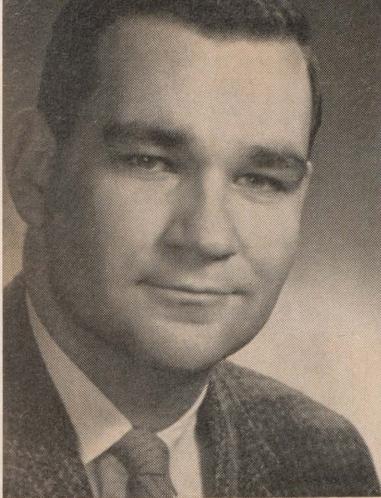
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OUR COVER: No, we're not publicizing sheep this month! Of course, at this time of year, who can resist the sight of a lamb... or, as in this photo, the whole family. Photo courtesy Imperial Oil Limited.

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INSIDE

THE EDITOR'S COLUMN

FOR MANY YEARS, English-speaking Quebec farmers have had their head in the clouds when it comes to a strong farm organization. The illusion that a paid-up membership of 700 farmers form a strong farm organization and that if French farmers want to do business with the English, then they had better learn to speak English, can't last any longer. This illusion will result in a lot of disappointed farm leaders unless they face the facts — now.

In the September 1955 Macdonald Farm Journal, an editorial titled, "Can Quebec Farmers Work Together?", pointed out that unless the Quebec Farmers' Association strived to seek common ground with their French-speaking counterparts, then they might as well cease to be.

Now, eight years later, the cards are down. What has the Quebec Farmers' Association accomplished? Very little! In fact, if it were not for the educational activities of the Farm Forum organization, then there would only be a few members of the Farmers' Association.

In Quebec, outnumbered by 8 to 1 by French farmers, 10,000 English-speaking farmers don't add up to a strong organization. When less than a tenth of the potential membership commits themselves to paying a five dollar due, then it is a very weak organization and one that doesn't represent the ideas and opinions of the majority. Let's face the facts. There has not been any great stampede to join the Quebec Farmers' Association and, despite the efforts of a handful of devoted leaders, there isn't likely to be any great increase in membership in the Q.F.A. It was a challenging idea ten years ago. Many people didn't believe it would work and obviously it hasn't.

One can't say the Quebec Farmers' Association is defeated; there simply was never any organization to defeat.

The day of reckoning is close at hand for those involved in the organization. Until now, the Q.F.A. has received most of its support from the Farm Forum. At the present time, there is considerable discussion on a national level about the value of Farm Forum. It has been given one more year of life. Unless a new formula for study-discussion-action is found within the next year, Farm Forum will be gone. With it will go what little interest there was in an English farm organization.

The basic principle to be established then, is how English farmers are going to relate themselves to the French farm organization, the Union Catholique des Cultivateurs and the powerful Co-op Fédérée. The proper solution would appear to be a grouping of all present farm organizations which have English members. This would include the various breed associations, the agricultural societies, the local rural development organizations and even Farm Forum, if it's still in existence, into a united front — a true federation. This federation could then become an active participant in the work of the U.C.C. The result would be a true sense of co-operation — the type of co-operation needed by all farmers if they are going to maintain their status in a basically urban economy.

If this federation became a reality, the organization would be truly representative of all Quebec farmers and their combined voice should make a better impression on the governments of Canada. In addition, the worry of how to get more members would be practically eliminated. More time could then be spent on such items as pension plans for farmers, unemployment insurance, improved medical care in rural areas and better educational facilities.

Of course, tolerance would be required by both groups. The U.C.C. would have to realize that not all farmers in Quebec are Catholic, the English-speaking group would have to have bilingual leaders. This is not impossible.

If the Province of Quebec is to become the great country it aspires to be, then co-operation will be absolutely necessary. It is not the type of co-operation dreamed about by Royal Commissions. It is the type of getting along together one has to face every day.

English-speaking farmers must get together and work out a sensible approach. They must seek common ground with their French compatriots. There is no key to unlock the secret of success. It will require understanding and inspiration to assure the best deal for the English-speaking minority in Quebec. Now is the time to end the illusion that simply by wishing, problems will disappear. Now, more than ever before, is the time to present a united front in agriculture. Now is the time to realize that the Quebec Farmers' Association is doomed and that a new plan will have to be devised as soon as possible.

Mark Waldron

Consumer Education In The High School

The cost of maintenance of today's average household seems to steadily increase; a great variety of available goods makes choice difficult. How should we help the future adult population of Canada fully understand the wise use of money, goods and services?

BEFORE WE BEGIN to discuss this topic let us decide who are the consumers of Canada. The answer is, of course, the families of Canada. These families live in cities, in towns, in villages or in the country. The population living on farms is dropping steadily but this does not mean a great move in to the cities but rather many rapidly growing "suburban fringe" areas. In present times, most families are primarily consuming units rather than producing units.

What are some of the conditions under which these consuming units, that is, our families, live? A great number of women, married as well as single, are now working outside of the family environment and receiving a cash sal-

ary to add to the family budget. Many families repeatedly go through the process of moving from one location and establishing a home in another. The adults find great pressures, particularly in the suburban fringe areas for conformity to the "group norm" in economic behaviour. Also the teen-agers, whether in the rural or suburban fringe areas, wear the same clothes, read the same magazines, watch the same TV programmes as their contemporaries in the towns and cities.

Further it is seen that incomes have risen but families seem to have chosen to upgrade their standard of living, not to save more. Many families operate on a credit basis and credit buying is now socially acceptable. The cost of maintenance of the average household seems to steadily increase and confusion is added to the burden because of the great variety of available goods which makes choice so difficult.

What do conditions such as these call for in knowledge and skills on the part of family members? Space does not permit the listing of a complete answer to this question. It is obvious, however, that the family members need information and skills which we could group under the heading of "Consumer Education". Using this heading I shall list a few objectives for a course which could be taught in the high schools.

Objectives:

- To help the students
- learn about credit buying in all its forms.
- recognize that personal and family values are determining factors in the expenditure of money for goods and services.

- learn about sources of income and how to plan the use of income.
- learn about ways of saving money, the functions of banks and banking services.
- investigate factors which should be considered when deciding to buy or rent a home.
- learn about factors which must be considered in maintaining a home.
- learn how to choose other goods and services.

At the present time the students who elect home economics are learning some of the answers. As only a small percentage of the girls and few, if any, boys elect home economics, there must be approximately three-quarters of our future adult population not having the opportunity to acquire this valuable information.

Should we introduce a course in "Consumer Education" and should it be compulsory for all students? Should we increase the time spent on consumer education within the present home economics curriculum and require all boys and girls to take the course for at least two years? There are many ways in which we might achieve our purpose of having the future adult population of Canada fully understand the wise use of money, goods and services. First, however, we must decide whether such a course should be in the high school curriculum. If the parents of our school children wish such a course to be given, then they should make this request. The request could be channelled through such organizations as "Home and School Associations" and "Women's Institutes". The important question is — "Do you want your children to have this knowledge"?

**by Prof. F. Isobel Honey,
Home Economics,
Macdonald College**



The New And Not So New...

Improved crop varieties from Macdonald College

by Prof. H. R. Klink,
Dept. Of Agronomy,
Macdonald College



Dorval is a tall, medium late maturing oat variety with good straw strength and yielding ability.

SINCE 1914, 27 improved varieties of farm crops have been developed by the Agronomy Department at Macdonald College. These include such famous varieties as Montcalm — the most widely grown malting barley in Canada for a number of years, Laurentian — still recognized as the most popular variety of swedes for the dinner table, Cartier and Roxton oats — well known for their superior grain quality. Algonquin — a continuing top performer among silage corn varieties, and many others that have achieved acclaim.

This breeding program is continuing, and during the past three years three new varieties have been licensed that are expected to make a significant contribution to Quebec agriculture. These are Champlain barley, Leo birdsfoot trefoil and Dorval oats. The highlights of these varieties are discussed in the next few paragraphs. Brief mention is made, too, of a few of the older varieties.

CHAMPLAIN

Developed from a cross between Moore and Montcalm, made in 1952, Champlain was licensed in 1962. This is a six-rowed, smooth awned barley with semi-compact heads that are easy to thresh. It stands up well in the field, having a much stronger straw than Montcalm. Champlain ripens about

three days later than Montcalm. This makes it particularly useful for growing crops of mixed grains. Mixtures of Champlain barley with Glen or Garry oats have been very productive.

The most significant characteristic of Champlain is its ability to produce high yields of feed grain under a wide range of conditions. It has consistently outyielded all other barley varieties in field trials right across the Province. Champlain is by no means completely resistant to the diseases that attack barley, but it does have some resistance to loose smut and powdery mildew under field conditions. These are the two diseases most likely to interfere with barley production in Quebec.

During 1962 and 1963 an intensive seed multiplication program was carried out resulting in the production of over 10,000 bushels of pedigree seed of Champlain in 1963. Some of this seed will be planted in Manitoba and Ontario this year, but over 7000 bushels of Certified Champlain barley is being made available to Quebec farmers this Spring through cooperatives and seed dealers. Perhaps you should give this new variety a try!

LEO

In 1956 some seed of birdsfoot trefoil was obtained from the All-Union Institute of Plant Industry, Leningrad,

U.S.S.R. This was grown at Macdonald College and was found to contain a number of plants with superior ability to withstand our winter conditions. These plants were saved, given extensive trials, and eventually combined to create the new variety, *Leo*, licensed in 1963.

Leo may replace the variety Empire, particularly for hay production. It is superior to both Empire and Viking in its ability to survive our winters, and where differential winterkilling occurs *Leo* may be expected to outyield the other varieties by a considerable margin. The use of *Leo* should result in less frequent crop losses from winter injury in the areas where birdsfoot trefoil is currently grown. In addition, this variety may permit a further extension of trefoil growing areas.

Leo exhibits the same prostrate growth habit as Empire. As a pasture crop *Leo* is no different from Empire in productivity, except where differential winterkilling occurs.

The seed multiplication of *Leo* is being handled by the Canadian Forage Seeds Project under contract. It is not expected that seed of this new variety will be available in quantity on a commercial basis before the Spring of 1967. It is a variety worth keeping in mind, however, and one worth waiting for!

Since 1914, 27 improved varieties of farm crops have been developed by the Agronomy Department at Macdonald College.

DORVAL

A brand new variety, licensed only in March of this year, *Dorval* oats is the most recent release from Macdonald College. This is a variety developed by the Quebec Project Group from a cross between *Ajax* and *Shefford*, made in 1951.

Dorval is a medium late maturing variety that is expected to replace *Roxton*. It matures about two days later than *Garry*. In tests throughout Quebec *Dorval* has outyielded *Glen* by ten per cent, and other varieties by even more. It has also yielded very well in trials in eastern Ontario and in the Maritime provinces.

In addition to its yielding ability, *Dorval* has very good grain quality. In hull content it runs two to three per cent lower than *Glen* or *Garry*, but not quite as low as *Roxton*. It has a smaller grain than *Glen*, but slightly larger grain than *Garry*.

Dorval has no resistance to the common races of rust, but this does not present a serious problem in most areas of Quebec. It is resistant to covered smut.

In trials throughout eastern Canada, the ability of *Dorval* to resist lodging has been similar to that of *Garry*, although its straw is generally about two inches longer than that of *Garry*.

Basic seed stocks of *Dorval* will be increased on the Provincial Seed Farm at Macdonald College this year, and seed for general distribution will be available in the Spring of 1965. *Dorval* will be included in the Recommended List of the Quebec Seed Board for 1965.

GLEN

The oat variety *Glen* is already well known to many farmers in Quebec, having been on the Seed Board's Recommended Lists since 1959. This variety was developed from a cross between *Ajax* and *Roxton*, made at Macdonald College in 1940. It was licensed in 1957 and until the advent of *Dorval* has been the top yielder in most areas of Quebec. As an early maturing variety *Glen* will continue to fill a need in many areas.

This variety produces a comparatively large grain with medium hull content. It is not generally as resistant to lodging or to diseases as in *Garry*, but has outstanding tolerance to a defi-

ciency of manganese in the soil. This often causes a nutritional disease in oats known as grey speck.

Seed stocks of *Glen* are generally available through cooperatives and local seed dealers. Registered seed of this variety is being produced on the Provincial Seed Farm, and a number of growers in the Province are also producing seed. As an early maturing variety, *Glen* is the best choice!

DOLLARD

While not really a new variety — it was originally released in 1936 — *Dollard* Red Clover is now appearing under its original name. For some years it has been blended with *Ottawa Red* and the blended seed of these two varieties sold under the variety name *La-salle*.

Dollard is a double cut type red clover with considerable winter hardiness. It is characterized by a small proportion of white flowered plants and a low incidence of leaf markings. This variety is resistant to Northern Anthracnose and moderately resistant to Sclerotinia disease.

Seed stocks of this variety are being multiplied under private contract and fair supplies of Certified *Dollard* are being made available this Spring through cooperatives and seed dealers.

DRUMMOND

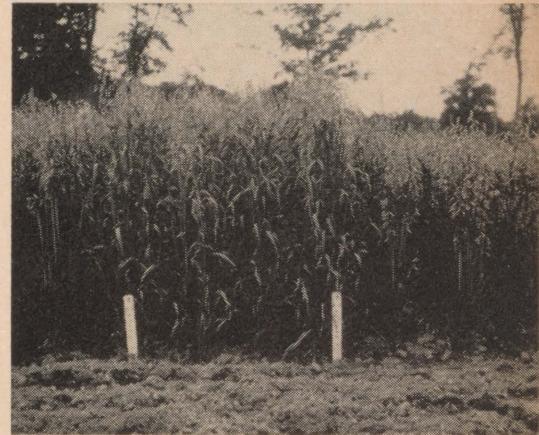
This variety of timothy was selected at Macdonald College and released in 1940. *Drummond* has been extensively tested in eastern Canada, but it is only recently that a genuine interest in this variety has developed.

Drummond normally flowers 10 to 14 days later than ordinary timothy, which permits late harvesting without loss in quality. It is highly resistant to timothy rust and is very winter hardy.

A concentrated effort is being made to increase seed stocks under private contract. Seed will not be available this year and it will likely be 1966 or 1967 before adequate supplies of *Drummond* can be put on the market.

MILTON

This is another timothy variety that should be mentioned. *Milton* was released by Macdonald College in 1937, but has been widely distributed. Among



Leo is superior where differential winterkilling occurs.

its attributes are winter hardiness, rust resistance and early maturity. *Milton* flowers at about the same time as common timothy, which may be up to a week earlier than *Climax*.

While there is no seed of *Milton* currently on the market, supplies of pedigreed seed could be made available within a few years if the demand for this variety developed.

AVON

Orchard grass is not grown in Quebec, but in 1933 a variety was released by Macdonald College under the name *Avon*. This variety has a high level of winter hardiness and is early maturing. Extensive tests have shown that *Avon* performs well in mixtures with *Ladino* clover as a pasture crop. It provides early Spring pasture and good midsummer growth, especially where irrigation is available.

Seed of *Avon* has never been distributed commercially, but could be made available within a few years if there was sufficient demand.

Basic seed stocks of *Shefford* oats (1954), *Kharkov 22 MC* winter wheat (1923), *Horton* fall rye (1919), *Frontenac* mangels (1940) and other varieties, are maintained from year to year by Macdonald College to meet occasional demands for such seed. While the development of improved varieties is not a primary function of the Agronomy Department, there is little doubt that new varieties will continue to arise from time to time as a result of research projects.

Solid Sunshine In Soil

**by Dr. A. F. MacKenzie,
Dept. of Soil Science,
Macdonald College**

IT IS HARD to see sunshine in our soils. But they do have large amounts of organic matter which are a result of the sunshine-storing process called photosynthesis. The organic matter in our soils has been produced by plants with their unique ability to capture sunshine. This organic matter is a storehouse of energy for micro-organisms in the soil and of plant nutrients such as nitrogen, phosphorus, sulphur, potassium and many others of importance. The fertility of the deep black soils of the Ukraine and the corn belt soils of the United States are legendary. This black colour is due to abundant supplies of well-decomposed organic matter. It is interesting that one of the earliest recognitions of this property was noted about 4000 years ago by a Chinese engineer called Yu. According to early Chinese records, he developed a classification of soils based largely on colour and structure, thus recognizing the importance to production of the organic matter in soils.

In addition, soil structure, water retention, erosion control and heat are either dominated or strongly controlled by this important substance. Yet of all the substances present in our soils, organic matter is probably the least understood.

All soils have organic matter. Some have very little like desert soils, some



Discing/seeding operations on the Ganshorn farm, which is between Grand Coulee and Regina, Saskatchewan. Nat. Film Board photo.

very much like peats and mucks. An average Quebec soil contains from 25-50 tons per acre. Wet soils have more than average as do fertile loamy soils. Organic matter content is controlled to a large extent by the level of nitrogen and phosphorus in the soil. The characteristic concentration of these two elements in organic matter (the carbon : nitrogen ratio; carbon : phosphorus ratio) has led to the idea that to increase organic matter one has to increase the N and P in the soil. On the other hand, continued depletion of nutrients from a soil guarantees a loss of organic material from soils. Thus organic matter levels in soil are often an indication of the soil's nutrient status.

In a sense we can consider the organic matter in the soil as fuel for biological "fires" that are always burning in our soils. These biological fires are the very essence of life in the soil as they provide energy for beneficial soil organisms. The ash resulting from these fires is composed of the essential plant nutrients of nitrogen, phosphorus, calcium, magnesium, potassium, sulphur and other micro nutrients. These fires must be kept burning in order to provide a continuous supply of nutrients for our crops. It is generally known that fertile soils have abundant fast rotating organic matter. This requires

abundant organic residues, to supply fuel, and requires good aeration to keep the dampers open and the fire burning. In addition, soils must be warm and moist. Too much moisture, however, may partially smother the fire with the result that the organisms will produce carbon monoxide, hydrogen sulphide and other toxic substances. Thus good tilth and good aeration are necessary for rapid organic matter turnover. Highly cultivated crops deplete soil organic matter because cultivation aerates soils and speeds up decomposition of soil organic matter. To keep these fires burning brightly fuel in the form of crop residues must be added. If residues are not added, the release of nutrients from organic matter becomes slower, until eventually plant growth decreases and soil erosion may become pronounced.

Soil erosion is often a result of loss of organic matter from soils through loss of nutrients and root crop residues. All the expensive erosion control measures are useless unless organic matter is present to bind soil particles together. This stable organic matter is the highly decomposed, well-rotted type that is formed slowly in the soil and must be maintained with constant care.

Thus careful management to maintain adequate input and adequate turnover of organic matter is necessary to obtain optimum yields from our agricultural fields. How is this management to be achieved? First of all, let's look at residue additions. Some crops add more residues than others. The world's high organic matter soils occur in grass-

land regions where rainfall is adequate. By reproducing these conditions in Quebec, organic matter can be added to the soil. Pasture stands of deep rooted grass and legume species will increase organic matter especially if they are kept growing vigorously as long as possible. This gives the grasses enough time to produce fibrous organic roots in the soil and gives legumes the chance to fix nitrogen for increased vegetative growth. It also gives free living bacteria the chance to donate nitrogen to the grass crops and increase grass residues. As much as 2½ tons of organic matter can be added by clover roots, 1½ tons by alfalfa and 2 tons by grass roots. On the other hand, cereals and row crops are notably unspectacular in maintaining soil organic matter. About 400 lbs. of root material is added to the soil during the growth of a 100 bushel oat crop. However, where the straw and other residues from the crops are continuously returned, organic matter losses can be largely offset.

Regardless of the type of crop, vigorous growth is essential to produce maximum residues. Fertilization and liming are prime factors. Grasses alone will respond to high levels of nitrogen as well as a balancing ration of phosphorus and potassium. Amounts needed will vary from soil to soil but 50 lbs. of nitrogen per acre (or 150 lbs. of ammonium nitrate) is not excessive. 25 lbs. of phosphorus and 25 lbs. of potassium will be needed to balance this nitrogen. A fertilizer such as 16-8-8 at 300 lbs. acre would be suitable. If manure is added, then nitrogen and potassium may be decreased and superphosphate at 100-200 lbs. acre will do the trick.

If a quarter or more of the pasture stand is legume, then less nitrogen and

more phosphorus and potassium is in order. 200 lbs. of 5-20-20, 0-20-20 or 8-16-16, along with liming if necessary will pay off not only in more plant roots and organic matter, but in dollars as well. Higher hay yields mean more production of animal products and if the manure from this increased production is returned to the land, this again means more organic matter.

Cereals and row crops should also be fertilized to increase plant growth and residue additions. Nitrogen is most effective for spring grains in Quebec but must be balanced with phosphorus and potassium to prevent excessive straw and lodging. Optimum rates will vary with crops and soils but 300 lbs. of 10-10-10 for wheat, barley and oats (not seeded down) or 300 lbs. of 5-20-20 (when seeded to hay crops) are average applications. A soil test will indicate the best rates of fertilizer to use. Even corn can be turned into a helper if it is fertilized adequately. This means 60-100 lbs. of nitrogen per acre along with 40-50 lbs. each of phosphorus and potassium at seeding and the return of all residues to the soil. Preferably residues should be in a shredded form. Adding 30 to 50 lbs. of N per acre immediately before discing the residues into the soil will speed up decomposition and help the next crop in the rotation.

Thus the choice of crop is important but when crops are dictated by economics, adequate fertilization will make any crop a relative soil saver. It is doubtful if it is feasible to increase organic matter in the soil economically with any crop. However, with good management the rate of loss can be reduced.

Animal residues also add fuel for biological oxidation. Farmyard manure spread at rates of 5-15 tons per acre will actually increase organic matter supplies. The greatest economic benefits occur when manure is applied prior to the most responsive crop in the rotation. However, even the most diligent of operators in a livestock enterprise cannot halt nutrient losses. Removal of nutrients from the land occurs when the milk, meat and eggs are shipped to the nearest outlet. Such loss of nutrients means organic matter depletion unless fertilizer applications are made to the crops on the land, or feed is imported.

The process of plowing down succulent plant growth, or green manuring, has been thought for years to increase organic matter in soils. Green manuring with legumes may increase nitrogen and organic carbon in the soil. However, legumes with their freeloading symbiotic bacteria are an essentially lazy combination that won't fix any more nitrogen than it has to. Thus on reasonably fertile soils little increase in

nitrogen and organic matter is probable and these legumes add only easily decomposable organic matter which is of transient value. Non-leguminous green manure crops add nothing to the soil unless they are fertilized. Their carbonaceous residues may rapidly flame-out and the ash returned is exactly the same as the amount removed. Green manure crops may be most useful as cover crops for erosion control. However, it is preferable to arrange a rotation in which the cover crop is not necessary. This is possible in Quebec where the growing season is reasonably short, land need not lie idle for long rest periods and rotations predominantly of hay are productive and saving of the soil.

Other sources of "stored sunshine" for our soils include peats, sawdust, composts, artificial manures, but these are of minor importance to large scale commercial agriculture. Sawdust and peats often require added Nitrogen to enhance decomposition. Composts and artificial manures contain valuable residues, but are expensive if only their nutrient content is considered. Greenhouse operators and market gardeners may find them useful.

To get full benefit from organic matter and residues the biological "fires" must have adequate oxygen. Soil aeration is extremely important. Excess water tends to smother the fires and soil drainage becomes a necessity. Farmers draining the heavy clay soils of Quebec find a sudden release of long stored nutrients. Although this speeds up organic matter oxidation, it also permits greater crop growth, more response to fertilizers, larger crop residues, more animal production and increased additions of manures. Thus the organic matter cycle is speeded up in much the same way as a supercharger increases engine speed and power. The engine may go faster but the fuel won't last as long. Any dragster will tell you that a blown engine requires an experienced, educated hand on the wheel to prevent loss of control and disaster.

Thus we have a delicate combustion machine — organic matter goes in, is decomposed, produces dark humus that binds the soil in stable structures and releases nutrients for crop growth. Man can add residues and nutrients and alter the rate of decomposition. For sustained maximum economic return, organic matter is intrinsic in any management scheme. Fertilizers are one of the keys to organic matter control. Loss of too many nutrients from our soils will produce soils low in organic matter, in poor tilth and subject to erosion. So use the rotation that responds to fertilizers, keep all the residues in the soil and reap the benefit of the stored sunshine that is present in our soils.

Sheet erosion, central Ontario. Nat. Film Board photo.



BLOAT...

The answers are coming

Animals do not bloat on trefoil. Trefoil is chemically different from bloat causing legumes such as Ladino clover or alfalfa. It is low in saponins and this results in a less stable foam in the rumen so that gas may escape more readily. It differs in phenoic compounds and tannins, which are related to the oxidation processes in the rumen. Bloat specialists are interested in basic genetic studies which were carried out at Macdonald College under Dr. W. F. Grant. Although the objective of these studies was to determine evolutionary relationships, this knowledge could be applied to breeding trefoils that are high in certain specific phenoic compounds if the bloat scientists find that certain of these compounds are particularly effective. Trefoil also differs in that it is higher in Vitamin E and is a low accumulator of Nitrates. Scientists feel that one or more of these factors account for the bloat free characteristic of trefoil.

J. S. Bubar.

WHEREVER CATTLE are raised intensively on lush, well-fertilized pastures, the condition of ruminal tympany or bloat is encountered. It is probably not as much a problem in Eastern Canada as it is in Western Canada on irrigated pastures. However, it has been and still is such an important condition to the livestock producer that there is an annual conference on bloat sponsored by the United States Department of Agriculture.

Not only does bloat cause losses in cattle by producing easily recognized symptoms but there is a tremendous loss from the more insidious subclinical form due to depression of appetite with consequent loss in production. It has been shown that production in a herd can be raised as much as 25 per cent in 24 hours if steps are taken to prevent the occurrence of this form of bloat.

Two types of bloat are recognized, a primary bloat and a secondary bloat associated with structural or other abnormalities of the digestive tract. By far the greater percentage of bloat is of the primary type.

As the name suggests, the main symptom observed in this condition is a gross distension of the abdomen giving the animal a bloated appearance. This distension is usually most pronounced in the upper left flank and may occur as soon as 15 minutes after the animal gains access to a bloat-producing pasture. Affected animals show obvious discomfort, they may get up and lie down frequently, kick at their bellies and even roll. Laboured breathing is usually seen and the tongue may be protruded. At the start of the attack rumen movements are accelerated but in the later stages rumen movement ceases. The course of the disease is short and if nothing is done to alleviate the symptoms death will ensue. In a group of affected cattle a number of them will show symptoms. There does, however, appear to be a variation in

the susceptibility of individual animals to the disease. The disease is primarily a disease of grazing cattle on very succulent pasture. Young, rapidly growing legumes in the prebloom stage are the biggest cause. The age of the sward seems to have an influence, the older the sward, the less likely to cause disease. However, the condition can also be seen in cattle grazed on other crops, even on young grasses with a high protein content.

A great deal of work has been done and is still being done on the elucidation of the factors underlying bloat production. The main problem appears to be the fact that those plants produce bloat give rise to a very stable froth or foam in the rumen when ingested. This causes the gasses produced to become trapped in the form of bubbles and not to collect as pockets of gas which are easily expelled by belching. Production of the foam also results in the abolition of the belching reflex so that the gas cannot be expelled.

As was mentioned previously, the rumen movements at the start of an attack are accelerated and of course this helps to increase the frothiness of the rumen contents. For some, as yet unexplained reason, the animal very quickly succumbs if the condition is not relieved. The cause of the frothiness is the factor that has received the most study. Some common forage plants have been rated according to their ability to produce stable foam as follows: Ladino 105, Alfalfa 100, Red Clover 90, Alsike 70, Birdsfoot Trefoil 40, Orchard grass 20 and Brome grass 20.

Studies on alfalfa suggest that there is a complex system of foaming agents, foam inhibitors and foam stabilizers and that the bloat producing potential may be the net effect of a delicate balance between these groups of substances.

Recent work in Canada indicates

by Dr. H. C. Gibbs,
Dept. of Animal Science,
Macdonald College

that the acidity in the rumen may also be important. Fresh alfalfa and ladino clover cause acid conditions which are favourable to the development of a stable foam. Grasses, on the other hand, do not have this effect. Adding grain to the ration caused marked increase in acidity. It does not appear advisable to feed grains with bloat-inducing forages.

Due to the rapid course of the disease it is often necessary to resort to first-aid measures before veterinary help arrives. Standing the cow with her front feet raised and drenching with about a pint of any non-toxic vegetable oil or even cream is helpful. Severe cases may have to be treated surgically with removal of the rumen contents. If bloat is a recurring problem on a farm, attempts should be made at prevention. A number of suggestions have been proposed. Some of these are: 1) the maintenance of pastures so that legumes do not exceed 50 per cent of the starch 2) strip-grazing which compels close or whole plant grazing 3) the feeding of at least 10 pounds of hay before permitting stock to graze legume pastures. Probably the greatest success in the prevention of bloat has been achieved by the use of oils on bloat producing forage. If strip grazing is practised the oil can be emulsified and sprayed onto the pasture which provides all of the grazing requirements for the day. About 2 to 4 ounces per cow is recommended. This method is impractical when uncontrolled grazing is allowed. In this latter instance the oil is administered in drinking water as a 2 per cent emulsion. Peanut oil and tallow have been found to be very satisfactory. The oil should be used only during periods when pasture is most dangerous. Continuous administration of oil can cause interference with the absorption of carotene.

To sum up it may be said that research on the underlying mechanisms of bloat production are proceeding rapidly and much of the work has yet to be published. With the increased understanding of the process involved in its causation it is hoped that simple effective programmes for the treatment and control of this ever present hazard to cattle raising will be formulated. This would make it possible to use with impunity much valuable pasture land that today is very dangerous if not handled carefully.

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THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE

QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

Compiled by T. Pickup of the Information and Research Service,
Quebec Department of Agriculture and Colonization.

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formity.



Stacking oats on the farm of Emile Begin at Coaticook, Stanstead County.

OATS GROWING CONTEST, 1964

In 1964, the provincial oats growing contest, to be held under the auspices of the Coopérative Fédérée and the Canada and Quebec Departments of Agriculture, and under the direction of the executive of the Quebec Seed Board, will be open to farmers in Region No. 3, comprising the following counties :

Beauce	Kamouraska	Mégantic
Bellechasse	Lévis	Montmagny
Dorchester	L'Islet	Rivière-du-Loup
Frontenac	Lotbinière	Témiscouata

CONDITIONS

Prospective contestants must satisfy the following conditions :

- 1) be genuine farmers;
- 2) sign an entry form at the office of their local agronomist before June 1st, 1964;
- 3) use at least 15 bushels of registered seed of one of the varieties recommended by the Quebec Seed Board (Glen, Shefford, Garry, or Roxton) to sow an area of at least seven arpents;
- 4) be the owner of the crop.

For the purposes of the contest, the region will be divided into two sections; competitors in either section may :

- 1) take part in the competition for standing crops;
- 2) take part in the Regional contest, providing that : —

- a) they make a score of at least 60% in the summer inspection;
- b) have at least sixty bushels of the oats cleaned by November 15th, 1964;
- c) the sample of their oats, taken by one of the judges and analysed at the laboratory of the Plant Products Division at Montreal, is eligible for the grade, General Seeds of Commerce No. 1, or better.

In the competition for standing crops, entries will be judged shortly before harvest on the basis of the fertilization and preparation of the soil, estimated yield, and freedom from disease, weeds and other grains.

A total of \$2,750 will be awarded in prizes.

PHOTOGRAPHS BY
OMER BEAUDOIN

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

Hybrid cockerels at the age of 20 weeks on the farm of Ernest Dugas near Nouvelle, Bonaventure.

From a speech by Dr. Ernest Mercier, Deputy Minister of Agriculture and Colonization, to the annual meeting of purebred livestock breeders at Montreal on the 19th of March 1964.

I have been asked to present you with a general survey — a bird's-eye view — of the present state of purebred livestock breeding in Quebec, the possibilities of progress, and the breeder's role in increasing the farmer's income. This is no easy task, because the basic facts one should have in order to give a realistic picture of the situation as a whole are rather few and far between, and it would be unwise to draw precise conclusions from the available information.

However, here are some figures showing the numbers of different kinds of livestock in Quebec and, where possible, estimates of the percentage of them that are purebreds.

These figures show quite clearly that, for all kinds of livestock, the

Livestock Population of Quebec

Kind	Total number	Number purebred	% purebred	Total value
Cattle	1,915,230	129,434	6.7 %	\$245,567,975
Swine	912,125	7,932	0.87%	25,172,876
Sheep	194,665	4,197	2.1 %	2,575,938
Poultry	13,031,000	—	—	16,432,329
Horses	81,000	1,941	2.5 %	16,200,000

number of purebreds is only a fairly small proportion of the total. Furthermore, not all of the purebreds are the result of a process of systematic selection.

Nevertheless, it cannot be denied that during the past 40 years there has been a considerable increase in the efficiency of our livestock productions, notably in the case of cattle, pigs, and poultry. On the other hand, it is obvious that the rate of progress has fallen far short of what would have been required to maintain the productions at a profitable level.



THE BREEDING OF PUREBRED LIVESTOCK

Past, Present, and Future

Why has progress not been faster? I am going to try to answer this question by briefly considering the past. Next, I will attempt to outline the present situation, taking into consideration the methods of selection now in use within the breeders' associations. Finally, we will take a look into the future and make a few suggestions about the requirements to be met if we are to make the progress that we all desire.

The Past

It is possible to discern several causes of the slow progress in the field of

urally strives to derive as much profit for himself as possible. This explains why, in the not-very-distant past, distinguished pedigrees, unaccompanied by strict enough selection, have often been over-rated. Thus, many people have tried to found herds with breeding stock whose hereditary merits fell a long way short of a fair average; and, in the long run, such people have experienced nothing but disappointments.

Perhaps also we believed for too long in a direct and simple relationship between type and yield — that is to say, between the accessory and the essential. No doubt type is of importance, because it represents the sum of the common characteristics of a breed: but it is far from being an accurate guide to an animal's productive capacity. In fact, all serious attempts to estimate the degree of correlation between type and production show that it is very small. One only needs to recall some show-ring champions of the past to find examples of this.

You all know that proper feeding and good herd management are quite as important as the hereditary qualities of the animals. There is nothing new about that: but although everybody knows it, it seems that when they sell the animals they have reared — and some of them are very good ones — our breeders have neglected to sell at the same time the idea that outstanding qualities cannot express themselves

animal productions and purebred livestock breeding. The breeders themselves are not to blame for all of them. Everyone knows that the results of even the planned programmes of livestock improvement are influenced by factors in which chance, uncertainty and risk always play a large part. However good the methods of selection, there are always unfavourable circumstances that the breeder cannot eliminate, as a result of which it is in the nature of things for progress to be comparatively slow.

In a livestock breeding enterprise, as in any other business, the owner nat-

in the absence of good feeding and management.

Finally, another cause of limited progress in our livestock farming in the past has been the financial position of many farmers, whose incomes have been too low to allow them to derive the best advantage from purebred livestock.

The Present

It is very encouraging to find that, in recent years, the majority of breeders' associations have been placing more and more emphasis on performance and that present methods of selection, without losing sight of type, are now centred chiefly on yield.

Thus, an increasing number of dairy breeders are now actively participating in the programmes of selection adopted by their associations. For the most part, and with much justification, these programmes consist of severe restrictions on the registration of male animals born of parents which are not qualified on the basis of performance. There is no longer any doubt that the elimination of cows whose milk production is not at least equal to the average for the breed, is the surest way to build up lines and families which will be a real asset in the improvement of milk yields per unit of production.

As regards beef cattle (which are becoming more important in Quebec) it is regrettable that the small size of our herds makes it difficult to carry out the performance testing that would make it possible for us to discover which animals are best qualified for breeding stock.

For a number of years past, swine production has been undergoing constant development in the direction of increasing specialization. Small piggeries are tending to disappear and be replaced by larger enterprises. This trend is making even more clear the necessity for a better directed selection of breeding swine. The system of performance testing maintained by the Canada Department of Agriculture provides pig breeders with valuable information about the comparative merits of breeding stock, and thus considerably to improve our market hogs.

Furthermore, in anticipation of increasingly difficult market conditions for hogs, the Quebec Department of Agriculture and Colonization, in collaboration with the purebred swine breeders' associations, has recently established a swine progeny-testing programme which will help to reveal our best basic breeding strains and provide hog raisers with a means of finding out the real value of their breeding stock, so that they can keep pace with the more exacting demands of consumers and the growing need for efficiency of production.

In Quebec, as elsewhere, the number of horses is steadily declining as a result of replacement due to the mechanization of our farms: interest in horse breeding has naturally suffered. Nevertheless, discriminating choice of breeding stock has not lost its importance. In this respect, the Committee for the Supervision of Stallions fulfills a necessary function in restricting the issue of service permits to stallions whose inspection reports certify that they are recommended for breeding.

To sum up, it can be said that the leading breeders — the élite — are persisting in doing their best to improve the genetic quality of the animals upon which, in turn, the improvement of our livestock and their contribution to Quebec agriculture depend. It is to be hoped that this élite will become more numerous, because the need for them is great and will become still greater.

The Future

Considering the urgent necessity for greater efficiency amongst the mass of those who are engaged in producing farm products on a commercial scale (and who find their margin of profit continually declining) it is clear that increasing emphasis must be placed on the selection of purebred animals on the basis of performance. Our farmers who, generally speaking, must depend on their livestock for three quarters of their income, will have to make more use of hybrid vigour in the future in order to produce more economically. Hybridization does not mean breed promiscuity, indiscriminate blood mixing, or random mating. It is the planned mating of selected, inbred parents which, as far as possible, are not related to one another, in order to get first-generation hybrid individuals in which vigour and efficiency (or performance as we call it) are generally much greater than in purebred and inbred animals.

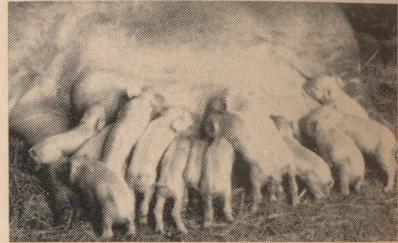
This is already being done with poultry: why should it not be possible in other branches of livestock production?

However, hybrid vigour presupposes the existence of a sufficient number of pure lines to cross. Unless we have a larger number of such lines in all our breeds of livestock, we shall not be able to take advantage of this effect. It will therefore be necessary to increase the number of purebred herds, if commercial hybrids are to bring their maximum benefit to those who are eventually going to have to make use of them. It will also be necessary to institute and adequately supervise carefully planned hybridization programmes.

I believe I have said enough to show that, in the future, the part that breed-

ers of purebred animals will be called upon to play in the progress of livestock productions in Quebec will be at least important as it has been in the past. Indeed it is likely to be even more important. It is from their herds that the yeast must come to ferment the mass. In fulfilling this vital role to the best of their ability, breeders will inevitably reap their own reward and, at the same time, make a contribution of the very greatest importance to the agriculture of Quebec.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.



A battle for life with every piglet for himself, on the farm of L. Boulais at Ste-Brigide, Iberville.

THE CARE OF NURSING SOWS

The results obtained from brood sows depend on various factors, a good number of which are under the owner's control. Mr. J. R. Latulippe of the Quebec Department of Agriculture and Colonization gives the following advice.

In the first place, breeding sows should be chosen with care: they themselves should have come from large litters farrowed by sows capable of producing an ample supply of milk, and of consistently bringing to the weaning stage at least ten well-developed and uniform piglets. This last point is important, because it is estimated that a sow must wean 10 to 12 piglets a year out of two litters, in order to pay her expenses (not counting labour). Any piglets she weans in excess of this number are reckoned to be profit.

Before the sow is placed in her farrowing pen — as she should be about 8 to 10 days before she is due to farrow — the pen must be carefully washed and disinfected. This is a precaution that many people have a habit of disregarding; but they often pay dearly for their neglect. The surest way to destroy the eggs of all kinds of parasitic worms, some of which may remain viable for five years, and most sorts of pathogenic bacteria as well and also external parasites, is to thoroughly wash



A herd of purebred French Canadian cattle belonging to Emile Begin at Coaticook.

the pen with boiling water, not forgetting the cracks and corners, and then disinfect it with lye at the rate of 1 pound per 20 gallons of water.

Other points to be observed are as follows :

1. Treat the sow for worms several days before farrowing;
2. during the 24 hours preceding farrowing, avoid feeding the sow a heavy diet capable of causing constipation and feverishness; these are very dangerous disorders;
3. place a guard-rail at a height of 8 inches from the floor and 6 inches from the wall to prevent the piglets from getting crushed;
4. install a lamp, out of the sow's reach, to ensure the warmth needed by the piglets;
5. be present when the sow is farrowing, so as to prevent any accident that might result in loss of piglets;
6. break off the tips of the "black" teeth that some of the baby pigs may have in their mouths : this will prevent them from injuring the sow;
7. during the 24 hours following farrowing, give the sow only a very little laxative feed, preferably a warm slop of wheat bran and water; after that, feed her a ration of nursing meal, gradually increasing the quantity over about ten days until she is receiving roughly 12 pounds, depending on her age and the number of piglets she is nursing;
8. when the piglets are three days old, treat them against anaemia, either by administering a ferrous iron compound or by injection. Keep handy a store of sods to give to the piglets every day;
9. when they are about three weeks old, start feeding the young pigs meal containing a low percentage of fibre, composed of feedstuffs such as oat groats and shorts, with protein supplements;
10. castrate the young male pigs when they are four weeks old;
11. wean at the age of six to eight weeks.

FEEDING OF DRY COWS

Inadequate feeding in the last few weeks during which a cow is carrying her calf may have a considerable influence on the volume of milk she will produce in the coming lactation; and it may also prove harmful to the calf's health. Hence a wise dairy farmer will pay close attention to the care of his dry cows.

In this connection, Mr. Roland Leblanc of the Quebec Department of Agriculture and Colonization makes the following comments.

Considering that two thirds of a calf's birth weight is acquired in the last two months of gestation, it goes without saying that, during this time, the prospective mother should receive a ration which will favour normal development of the foetus and, at the same time, ensure that she herself will increase her own body weight.

Experiments have shown that if a cow loses 50 pounds during the course of a gestation period, her milk yield in the subsequent lactation will suffer a reduction that may range from 700 to 1200 pounds. On the other hand, if she gains 50 pounds, her milk yield will show a comparable increase.

There is a great benefit in feeding a cow during the advanced stages of gestation so as to allow her to reconstitute her reserves of calcium, potassium, phosphorus, and protein. The feeding for high-quality forage, such as alfalfa and clover, mixed hay containing a good proportion of these legumes, will enable her to maintain a satisfactory balance with regard to these substances. To promote the proper functioning of the animal's body, it is desirable to add 10 to 15 pounds per day of good silage or to feed swedes. The ration should also be balanced by the addition of concentrates.

Since the animal also needs to reconstitute her mineral reserves, it is very important that she be given a chance to do so. The mineral mixture recommended for dry cows is obtainable on the market, the proper quantities to serve being indicated by the manufacturer. A suitable mixture can also be prepared on the farm with the following ingredients : 62 pounds of bone-meal; 5 pounds of ground limestone; 33 pounds of salt; 3 ounces of potassium iodide; and 2 grams of cobalt sulphate. This mineral mixture should be given at the rate of 6 ounces per head per day (or an amount equal to about 3% of the weight of concentrates fed).

In order to favour normal calving, it is necessary, during the last week before the calf is expected, to reduce the amount of rough forage fed to the cow, and replace it with mash containing a liberal portion of bran.

DOUBLING CROP PRODUCTION BY 1964

It should be entirely possible to double crop production in the next twenty years, provided that certain steps are taken promptly. It would be essential to establish effective, nationwide research programmes in the food deficit countries in order to develop new inputs or innovations through the application of modern science and technology. For the most part, this would be relatively simple research designed to adapt materials and methods from countries in which agriculture has progressed.

Procedures must be improved to make available new materials and knowledge to farmers. This will require better techniques for the dissemination of information, presenting new ideas in terms that will be understood and in a manner that will convince the recipients that proposed changes are reasonably foolproof and economically worth while.

Provision should be made for establishing local institutions that will furnish a continuous flow of innovations for the modernization of agriculture. This will require not only effective problem-oriented research and extension programmes, but educational institutions geared to the specific needs of the indigenous agriculture, in contrast with the normal academic approach to the agricultural sector. It will require also appropriate attention to the services and supplies required by agriculture, including credit sources for improved seed stocks, fertilizers and pesticides, and storage, processing, marketing and related functions.

It is difficult to project annual rates of increase on a country-by-country basis. It is evident from the experience in Japan, Taiwan, Mexico, and other countries where substantial growth in agricultural output has been achieved, that, where effective technological inputs are available, it is possible to modify primitive and unproductive agricultural practices.

In general, farmers in less advanced agricultural countries are obtaining nearly the maximum anticipated returns from their current inputs. The deficiencies are the lack of improved varieties, the inadequate use of fertilizer and pest control materials or methods, and the inadequacy in assembling the proper combination of such improved materials and methods to achieve maximum return from the combined advances. As traditional agriculture is transformed and becomes increasingly productive, government leaders will have greater opportunity for planning more adequate land use, nutritional policies, and trade patterns.



Patrick Dupont with some of the 500 red pines that he has planted on his farm at St-Ferreol, in Montmorency Country.

THE PRUNING OF CONIFERS

Coniferous trees have great decorative value in the landscaping of the garden or grounds of a home or a park: their good growth and form can usually be maintained by proper pruning. However, by injudicious lopping and trimming it is possible to ruin the appearance of a fine tree in the space of a few minutes. Mr. Daniel Séguin of the Quebec Department of Agriculture and Colonization makes the following recommendations.

It is advisable to attend to conifers often, to remove dead and damaged wood. They should be pruned with a view to encouraging an attractive expression of their natural form (pyramidal, ball, erect, or recumbent): to achieve this, it may be necessary to cut back a branch that is too long, or remove some of the new growth. Certain faults can be corrected: in some cases, one can restore a broken top by training a lateral branch to become a leader, or fill an empty space by drawing two or three branches together. Pruning can also be used as a means of controlling height, obtaining denser trees, straighter trunks, or better balance or symmetry.

As regards the proper time to prune, Mr. Séguin makes these suggestions:

prune a broken or damaged branch as soon as it is noticed. Pines should only be pruned once a year, at which time half of the length of the new shoots should be removed when they have the shape of a candle, before the needles appear. During the remainder of the year, a pine may be allowed to make new buds. The growth and form of spruce and fir can be controlled at the start of their growing season, through the removal of the terminal buds of the strongest branches or by the cutting-off of part of the growth of the preceding year close to a bud. Half of the new growth may also be removed during the month of June.

Cedars, junipers, and yews (*Taxus*) are more tolerant of pruning because of the presence of many stems and buds. The year's growth may be pruned back about the middle of June and again, as desired, at the beginning of August.

It should be emphasized that, in pruning conifers, one should not cut into wood that is more than a year old with a view to encouraging the growth of new shoots (as is done with leafy trees and shrubs). It is permissible to cut into the older wood, mainly of Junipers, if the cut can be hidden by lateral branches.

Generally speaking, cuts made during the pruning of conifers do not need any treatment unless the wounds and scars are too big, because the tissues of these plants contain a substance which will provide them with adequate protection.

HOG RAISERS SHOULD AIM AT UNIFORMITY

Restricted feeding during the finishing period is now recommended as a means of preventing market pigs from putting on excessive covering fat or intramuscular fat. Mr. J. R. Proulx of the Quebec Department of Agriculture and Colonization points out that since pigs are fed in groups, the degree of feed restriction actually achieved may vary greatly from one animal to another. The more voracious or aggressive animals in a group may get all they can eat, even under a programme of restricted feeding, the more timid ones may only succeed in getting a maintenance ration. As a result, all the pigs in the group will not be ready for market at the same time, and the problem of transportation will be more complicated. To avoid this inconvenience, those who raise pigs are advised to regroup them according to weight, and to feed a more generous ration to the backward groups.

Another way of feeding pigs more efficiently is to feed the castrated animals separately from the females. The latter make more efficient use of their feed and produce a higher-quality carcass. The castrated animals, since they tend to put on excess fat, might each be given about one pound less feed per day than the females. In this way, all the pigs in the lot can be got ready to go to market on the same day.

Many factors can influence the rate at which an animal converts feed into flesh, for example: individual characteristics resulting from the genetic make-up which it has inherited; the quality and energy content of the ration; wastage of feed; the degree of comfort provided; regularity of watering; freedom from diseases and parasites. Incidentally, appetite and amount of feed consumed are affected by seasonal changes in temperature.

The hog producer should be on the watch for such effects. There's nothing so observant as the master's eye.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

The Better Impulse

NEWS AND VIEWS OF THE
WOMEN'S INSTITUTES OF QUEBEC



LACHUTE SPRING FAIR

The above photo shows part of the Argenteuil WI exhibit at the 1963 Lachute Spring Fair of last year. An innovation during the exhibition was a demonstration of rug hooking by Mrs. N. E. Smillie and a rug braiding demonstration by Mrs. A. MacAllister, both members of the Brownsburg WI. So much interest was shown that plans are now underway for a program for this year's Lachute Spring Fair, to be held June 17-20.

THE GOLDEN AGE

Another branch has reached the Golden Age of Fifty — so congratulations to PIONEER, organized a half-century ago, on March 13, the first branch in Argenteuil County. The branch has remained active through these years, and plans a special celebration later.

"ANNUAL MEETING" — these are the two words on all reports this month, with all branches electing and installing officers, paying dues and other annual commitments, reviewing the past year's work, and planning the next. Outgoing officers were thanked for their efforts for the W.I., and new and continuing officers were promised the cooperation of members to ensure a good year ahead. Many branches heard good reports of the Provincial Semi-Annual Board Meeting.

FWIC PRESENTS SURVEY ON FARM PROGRAMMING

"Farm women are interested and concerned with the type of farm programs that are carried on radio and TV", says Mrs. Harold Simonson, Wetaskiwin, Alta., Convener of Agriculture for the Federated Women's Institutes of Canada. This statement is made in

a summary prepared as a result of a fact finding survey among the Provincial members of her committee. This has now been presented to the Canadian Broadcasting Corporation, who have been conducting a review into Farm Programming in Canada. The farm wife is very closely associated with the work of her husband — more so than in probably any other occupation or profession, contends Mrs. Simonson, and because of this the 75,000 members of FWIC, most of whom are rural, have made their views known to the CBC regarding farm programs.

The FWIC review stated that radio and TV can best serve the farming community by keeping it informed as to the latest developments in marketing, weather reports, newest techniques in agricultural methods, etc. Rural development, trade tariffs, production and marketing trends in other countries as they affect Canadian markets, were also mentioned. As for type of program, enthusiasm was expressed for TV short courses and Country Calendar was another program highly rated.

A suggestion was made that Farm Forum might be tried on TV for at least one season. It is felt this broadcast is an excellent way of presenting information and that it is a program that can be used to foster good public relations between farm and urban dwellers. It is one of the few means of keeping the rural community together and it should continue to be an important medium of information, guidance and adult education. Mrs. Simonson emphasizes that care should be taken to present all sides of the questions dealt with and that the moderator and those taking part in the panel should be fully informed on all aspects of the topic under discussion.

Mrs. Simonson goes on to say, "It appears difficult to present drama without creating an image, favorable or otherwise, of the farm family. Too often the listening or viewing public get an image of ignorance, backwardness, simpleness, when the farmer and his wife are portrayed." Typical, average farm families should be shown, not extremes in either direction, and presenting the farmer's image as a "country hayseed" was deplored.

Programs to create understanding among the general public about the agricultural situation were of equal importance to the information program

for farmers alone. "Good public relations are almost as vital to the farmer as good weather!" was a statement made. Care should be taken that news broadcasts do not give out "half-truths" or leave the public with the wrong impression. An example given was announcement of wheat payments. It is sometimes made to sound as if the money is an extra "hand-out" given to the farmer when, in reality, it is money that belongs to him and for which he has waited long and patiently.

Farm women would like to see more programs on gardening, care of house plants, farm home beautification and landscaping. A series on "Life on a Farm", showing the different methods in varying regions of Canada, was also suggested... both radio and TV could be used for such a program. Weather and market reports were rated highly but provincial reports should also be quoted, not always "FOB Toronto or Montreal".

Mrs. Simonson commended the CBC for its efforts to obtain information from farm groups and individuals. This clearly shows, she states, that it is trying at all times to increase the effectiveness of its programs and endeavouring to satisfy the wishes of their listeners and viewers". She concludes her report by saying, "The members of the Federated Women's Institutes of Canada appreciate this concern, shown by the CBC at all times... for devising even better programs in the future for country people".

SPECIAL TRIBUTE TO NWT

Mrs. Van Beekhoff's pays a special tribute to the Northwest Territories after her visit to WI's there. (Taken from the magazine "North")

"My all-too-short stay in the Mackenzie District came to an end and I'm grateful to everyone for the wonderful hospitality and the planning which gave me a chance to see so much in so short a time. I can imagine that the north does get under one's 'skin', and that some people are always coming back to devote their lines to the development of this fascinating part of glorious and free Canada and its inhabitants.

The Music of the rapids coming through the tall pine trees, which joined them in an eternal song, the mighty Slave River, the old portage

(Continued on page 20)

THE MONTH WITH THE W.I.

ABITIBI EAST: MALARTIC following their Hat Remodelling Course, have purchased hat form and blocks for further work in millinery; made plans for entries in local June Exhibition.

ARGENTEUIL: ARUNDEL discussed work of the Red Cross. BROWNSBURG joined CAC; will make Christmas stockings again. UPPER LACHUTE EAST END: donated to Lachute High School's Year Book; renewed membership in CAC; have completed two quilts in past two months.

BONAVVENTURE: BLACK CAPE requested road sign in Black Cape, as guide to entering the district, from Roads Dept in Quebec City; demonstrations on how to cover a chair seat, and proper method of starching and ironing doilies. MARCIL held two card parties, and received donations, all in aid of the Soup Fund for local schools; Valentine treat of apples given to students in two schools; member donated 6 creams and sugars to the branch. **BROME**: ABERCORN made Christmas stocking; heard report of Semi-Annual Provincial Board. AUSTIN received donation of material from Eaton's. KNOWLTON'S LANDING honoured a member on her 50th wedding anniversary. SOUTH BOLTON accepted gift of a hospital bed; the branch now has two such beds for the use of any person in the community; use the McLennan Travelling Library; renewed CAC membership.

CHATEAUGUAY - HUNTINGDON: AUBREY- RIVERFIELD heard reading on Education. DEWITTVILLE heard Mrs. L. Galipeau speak on the charitable work of the Ladies of St. Anne, of St. Joseph's Church; held leathercraft and glove-making course with good attendance, and with several pairs of gloves, belts and a purse completed. FRANKLIN CENTRE heard Mrs. Robert Cunningham speak on the life of her husband and herself as missionaries in the Congo, with slides shown; awarded prizes at Franklin School program; assisting in erection of school fence; completed large hooked rug and a quilt; held cookie contest. HEMMINGFORD sent 48 pounds used greeting cards to school in Taiwan, with accompanying letter telling something of the W.I. HOWICK has taken some first steps on Make Canada Lovelier project, with letters to both Councils; renewed subscriptions to Federated News, made Annual Donation to Quebec Service Fund; heard paper on Maple Syrup; HUNTING-

DON voted funds to Huntingdon Fair, whose Board of Directors includes some WI members.

COMPTON: BROOKBURY gave plants and gifts to hospitalized members; CANTERBURY gave sunshine basket to sick member. COOKSHIRE brought in completed knitted squares for afghan; donated to Save the Children Fund. EAST ANGUS saw a film on Goose Bay; held paper drive; collected cottons for cancer; sent gifts to sick members. SAWYERVILLE held food sale. SCOTSTOWN held quiz on the Handbook, welcomed a new member; one member is teaching smocking to an interested class of 10. **GASPE**: GASPE members named a tree they would like on their lawns; enjoyed social evening of cards. MURDOCHVILLE's Home Economics convener provided worthwhile program concerning "Canada Standard Size". WAKEHAM held successful food and mystery parcel sale. YORK members made and wore "crazy hats"; held mystery parcel sale.

GATINEAU: AYLMER EAST entertained LAKEVIEW and LOWER EARDLEY, to hear guest speakers, Mrs. E. Robson, Regional Director, V.O.N. and Miss T. Pelletier of Hull Branch, V.O.N. They spoke on work of their organization and showed slides; contest — a written menu for one day of 1,000 calories.

EARDLEY learned of customs and traditions of Valentine's day from Mrs. S. Robinson; word contest "Farmer's Love Letter" won by Mrs. W. Duffy. KAZABAZUA held tea and white elephant sale; sent good clothing and other articles to Verdun Protestant Hospital; made baby clothes for needy family. RUPERT catered a Banquet with substantial financial returns, loaned their hall free of charge to local Young People's Society for a Social; sent knitted and small articles to Save the Children; donated to Red Cross; following discussion, members agreed that sex education needs to be taught at home and at school.

WAKEFIELD had as speaker, Col. D. E. MacIntyre, who gave illustrated talk on his recent trip to Europe; roll call brought suggestions on increasing membership; canvassed for Red Cross. WRIGHT heard Mr. Peter Hutchinson, Vice-Principal of Queen Elizabeth School, speak on importance of attractive and concise posters or signs to publicize events, illustrating his points by making a few samples; coloured slides on a recent trip to Mexico were

shown by Mrs. Evan Pritchard; bouquets to the seven members with perfect attendance.

JACQUES CARTIER: STE. ANNE DE BELLEVUE donated \$25 to Retarded Children of the Lakeshore; held Birthday Supper, March 14th, at Macdonald High School; advance notice of Branch meetings is broadcast on CFOX.

MISSISQUOI: County is working on plans to place picnic tables at Dunham as a County Project. COWANSVILLE welcomed a new member; heard letters from their LINK in England and their adopted girl in Jamaica; donated to Student Loan Fund in High School, renewed Federated News and CAC membership. DUNHAM welcomed 2 new members, donated to Student Loan Fund at Cowansville High School; renewed Federated News. FORDYCE Members have compiled a cook book which is now on sale; bought a Coupon #367; renewed membership in United Nations and in CAC; donated to Student Loan Fund. STANBRIDGE EAST will continue to support their foster twins from Greece.

PAPINEAU: LOCHABER made first step toward a Make Canada Lovelier project with letter to Mayor and Council asking their interest and support.

PONTIAC: CLARENDRON presented toaster to Bristol Memorial Hospital; donated \$50 to Shawville Agricultural Society; donation to school for purchase of library books; guest speaker was Miss Britton who told of her work as school librarian. ELMSIDE had a quiz on citizenship; branch decided to unite with WYMAN branch, the point branch to be known as WYMAN-ELMSIDE. FORT COULONGE heard Mrs. A. Jacques, Public Health Nurse, speak on Mental Health, and report of recent Mental Health Convention; donated wash-cloths to Pontiac Community Hospital. QUYON has completed the very successful French Course for Adults, sponsored by the WI through the Provincial Youth Dept., which has been running for several months; planned Prize List for Quyon School Fair; Roll Call: — a Physical Exercise! SHAWVILLE donated to Boy Scout Association; discussed scholarships; held white elephant sale. STARK'S CORNERS heard a reading on Political Interest; held sale of articles contributed by members, proceeds to Pontiac Community Hospital. WYMAN entertained County President, Mrs. A. Kelley, who reported on Pro-

vincial Semi-Annual; beautiful slides shown by Mr. Tracy, slides taken while working with the Eskimos in Northern Quebec.

QUEBEC: VALCARTIER purchased linens for orphanage.

RICHMOND: CLEVELAND held quilting meeting, with quilt blocks made and brought in by members. DENISON MILLS made up their prize list for Richmond Fair Children's Section, which will include prizes for posters. GORE has three members with perfect attendance; donated to Sherbrooke Hospital, Richmond Fair Prize List, Red Cross; sent 56 diapers to Cecil Butler Home. MELBOURNE RIDGE started off on a new contest: each member given tuberous begonia, to be grown and judged later; held sale of remnants; cancer pads made to be sent to Drummondville; made up branch Prize List for Richmond Fair, which includes prize for best "Clean-Up Poster".

RICHMOND HILL has five members with perfect attendance, who received a cup and saucer from the branch; donations made to several worthy organizations; donated to Fair Prizes; renewed CAC membership; material received was sold to raise funds; roll call on Canadian Geography. RICHMOND YOUNG WOMEN held sale of material. SHIPTON is making progress on their Quilt Contest; gift to Mrs. E. Crack for perfect attendance. SPOONER POND welcomed 2 new members; heard Miss Dawn Goodfellow, youth delegate to the U.N. give interesting talk; quilt sold; members each brought a Get-Well or Greeting Card, in a stamped envelope, these to be used by the branch as appropriate.

ROUYN - NORANDA: ROUYN-NORANDA held card party, with drawing on an electric blanket; travelling apron started to raise funds. Mrs. M. Richards, President reported on Provincial Semi-Annual.

SHERBROOKE: ASCOT held a telephone card party, entertained husbands at a Pot-Luck Supper. BELVIDERE had Mrs. N. Lothrop as guest, speaking on Citizenship in Relation to Health and Welfare; held card party; donated to Student's Council at Lennoxville High School. BROMPTON ROAD gave ways to publicize the WI as their roll call; held publicity contest, and a horror auction; purchased UNESCO Coupon #367; donated to Save the Children; apron exchange; cup-cake contest. LENNOXVILLE held Grandmother's Day; Mrs. D. Savage, County President was guest; gave 8 hours at cancer dressing station making bed pads; quiz on how the provinces derived their names; donated to Save the Children; sewing and tailoring course held. MILBY held guessing contest, and exchange of handkerchiefs; sick and

shut-ins remembered with cards and plants.

TWO MOUNTAINS: OKA held a Movie Night, with free admission, and with a Bake and Home-made Candy Sale, with a St. Patrick's theme; Mrs. Oke, President reported Provincial Semi-Annual.

STANSTEAD: BEEBE members turned in Talent money earned in past month; assisted Association for Blind drive; used books collected and shipped. HATLEY CENTRE honoured the 83rd birthday of their eldest member with a cake and a decorated basket containing pantry shower gifts; sold handmade "what-not" to raise funds. MINTON collected for Cancer Society, donated to Save the Children. STANSTEAD NORTH welcomed new member, WAYS MILLS' meeting was a Pot-Luck supper; gave National Geographic subscription to Ayers Cliff School; collected and shipped used books.

CONFEDERATION

Since Confederation four provinces have become ten provinces — the increase in wealth, population and importance has been great. So far as any one can now see the growth during the next fifty years is likely to be even more rapid than in the past. It is very inspiring to be a citizen of a new country whose past history is a record of growth and whose future points to even greater things.

The united provinces found plenty of hard knots to work over. They realized they were working for a source of wealth.

Canada has become a great mining country. Her yearly production of minerals is many times what it was half a century ago.

In a free country every citizen must know something of his government if his country is to continue free. The children of to-day are the citizens of tomorrow and must prepare themselves for the duties and responsibilities of citizenship. Parents and teachers often speak of parliaments, ministers, commissioners and the like and much of their talk seems confusing. We will find a government sits at Ottawa to make laws for the whole country. In each province there is another body which makes special laws for that division. If we give it a little study and thought we will be able to understand what we hear and read in the newspapers about our governments. In order that there may be as little confusion as possible, certain things are left to the provincial governments and all the rest go to the Dominion Parliament.

"A. M. CORRIGAN",
Provincial Convenor of
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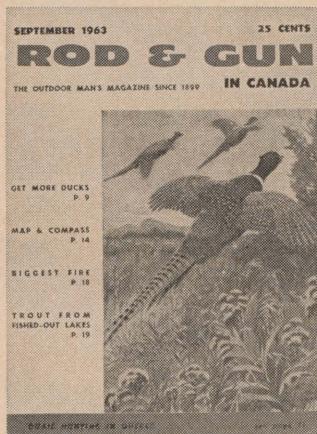
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FARM FORUM NEW'S 'N VIEWS

by Galen Driver

This year's Farm Forum season was all too short. We had the first topic, took a couple of weeks off at Christmas and then had our last broadcast. At least, this is the way the winter went by for the staff at the Provincial office. All our Forums enjoyed the broadcasts.

Plans have been made for next fall when we will officially start our activities again.

One evening our topic was "Forums Consumers get Together". A question asked was: "How can Farmers increase their share of the Consumer's Dollar?" **The Mansonville Forum** replied: "There is a great gap between the farmer and the consumer. Many city people are unaware of the production costs and prices paid by the farmer. They think the farmers ask too much for their produce. We think that we must eliminate the middleman as much as possible and cut down on unnecessary handling of our products. We must educate the farmer to know what the consumer wants." **The Rawdon Forum** said: Farmers could increase their share of the consumer's dollar by selling whenever possible directly to the consumer. Farmers should try to improve the quality of their products. The retailer and wholesaler make their set profit but the producer has to accept the market price, whether he makes a profit or not. The producer has no bargaining power." **The Spooner Pond Forum** felt that as producers we could share the consumer's dollar by selling our products directly to the consumer. We think that forming a producer-consumer co-operative perhaps would be a means of sharing the consumer's dollar as well as creating better relationship between producer and consumer."

We are concerned with the relationship between the producer and the consumer. The Forums were asked how relationship could be improved. **The Sutton Junction Forum** stated: "Establishing better relationship is difficult because . . . both groups have different goals. The farmer wants the highest price for his produce and the consumer wants to pay as little as possible for his food. A food council would bring the groups together."

Centennial 1967 was a popular topic for Quebec forums. This provided many members their first opportunity to sit down with their neighbours and discuss plans for 1967. Several groups

commented that from now on they would be making definite plans for community and personal projects to be completed in 1967. The first question discussed was "What projects can you undertake to assist your community in the observance of the Centennial?" **The Kingsbury Forum** replied: We will purchase land and establish picnic areas in our community. We will beautify our properties by cleaning up and painting our buildings, the eye-sores will be removed from the tourist's view." **The Third Range Forum** stated: It is our opinion that the history of communities should be written up. Trees should be planted and picnic areas established. The brush and rubbish should be cleaned up along the highways and railways, car graveyards should be cleaned up. If these things were done, it would encourage tourists." **The East Settlement Forum** added: Projects we could undertake would be to try and prevent the throwing of garbage along our highways. Build picnic areas for visitors. Clean up water pollution so that beaches, now closed, can be opened. This will benefit the whole community."

Many of our members are making plans to celebrate this event. Many plan to tour Canada, and almost everyone plans to go to the World's Fair in Montreal. Several groups mentioned that they would make a special effort to paint their farm buildings in order to make their properties more attractive.

We had an active Farm Forum season. I think every group enjoyed the discussions. We are all looking forward to next season.

SPECIAL TRIBUTE

(Continued)

tracks for the Indian canoes, the wild wide rapids, where we looked in vain for the floating pelicans, the harbour where the loads changed from boat to trucks to pass the rapids over a long stretch of road; all entranced me. This is the land of the old fur traders, and its name has always been full of romance and adventure to my Dutch, old-world ears. And all this I was able to see and enjoy as part of my visit to the Canadian Women's Institutes because the Pacific Western Airlines had offered me free transportation to Fort Smith and Hay River."

Briefly Stated

A collection of short items of news

WEATHERWISE

Place	Average Temperature		Annual hours of bright sunshine	Lowest Recorded Temperature	Annual Degree Days below 65°F.
	Jan.	July			
Halifax	24	65	1840	-21	7,380
Lennoxville	13	66	1750	-48	9,000
St. Catharines	26	71	1760	-12	6,610
Winnipeg	-3	67	2120	-54	10,840
Victoria	39	60	2210	-2	4,940

What is the variation in climate in Canada? This can be seen from a comparison of various climatic variables for different places. The table gives some comparative values taken from summaries of the climate at different weather stations.

Education Week was observed in many Canadian communities this year during the first week of March. During the course of that week, many students wrote essays concerning education. This one is by Andrew Sanctor of Ormstown High School.

IS SCHOLARSHIP WORTH THE EFFORT?

There can be little doubt in any intelligent person's mind that scholarship is well worth the effort. All one has to do to arrive at this basic truth is to observe what is happening around him. No matter where we look — the past, the present or the future — we see that the scholar quickly comes to the foreground. For those of us who wrestle daily with the problems of mathematics and the abstract ideas of literature, a quick look at this whole question of scholarship is most necessary.

If we look at our world as it exists to-day, we see that it is built around the scholarship of those who have gone before. All our television sets, washers, machines, cars, trains and every mechanical object is the direct result of the work of scholars who spent hours trying to devise and improve these machines. When we entertain ourselves and improve our minds by reading, we are relying on the work of scholars in this field. Truly, we owe a great deal to men such as Socrates, Newton, Einstein, and Shakespeare who have done so much to "blaze the trail" for us.

We must not assume that scholarship is a thing of the past — that everything there is to know has been learned. We have hardly scratched the surface of the great reservoir of knowledge. That is why brilliant minds in universities all over the world are continually striving

to improve, perfect, discover, and invent. It is man's basic characteristic to plumb the unknown. The only way man can delve these uncharted seas is by being a true scholar and practising all the habits and disciplines which true scholarship requires.

To this point many people might agree. However, many are probably now saying, "I don't want to be a scholar — an egghead". This is surely

a ridiculous way to look at the problem. In the vocabulary of many young people "scholar" has nearly become a dirty word. Why is this? To be a scholar does not mean that one cannot be an athlete, a leader, a socialite, or a "good fellow". A true scholar combines these qualities with his scholarship and is a person respected for his all-around ability. Even the term "egghead" should not be despised to the extent that it is now, because it is these geniuses who become the leaders in their chosen fields. Let's annihilate the ridiculous and dangerous attitude many people have toward scholarship.

Many people, especially in schools and universities, are often discouraged by the hardships which true scholarship entails. But the grind of homework, the fear of deadlines, and the concern with petty personal problems must give way to a great challenge, — the search for truth. If we keep these ideas before us as we continue through our daily struggles, I am sure that we shall all soon come to the conclusion that scholarship is worth the effort.

I have expressed my opinion in the affirmative, although in times of despondency I often have my doubts. However, if we look at scholarship in the past and present; if we fix in our

(Please turn page)

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BRIEFLY STATED

(Continued)

minds the true meaning of "scholar"; and if we all resolve to continue the fight against ignorance, I am sure that our doubts will be overcome. Then we will all realize that scholarship is one of the great adventures and that is most certainly worth all the effort we can muster.

WOLF STUDY

Farley Mowat. Never Cry Wolf. Toronto, McClelland and Stewart. 1963. 247p. \$4.95.

For those who have enjoyed Farley Mowat's writings in the past, his latest book will need little reviewing to recommend it. In this case the author has taken as his theme the unnecessary destruction of the wolf population, and treated it with sympathy and humour.

Hired by the Canadian government to undertake an investigation into the depletion of the cariboo population by wolves, Mowat is landed somewhere in the barren subarctic lands Northwest of Churchill, Manitoba, with some \$4,000 worth of government equipment. He rapidly establishes contact with the "study species" — *canis lupus* — face to face at a distance of six feet! In order to sustain contact — at a slightly greater distance — the author takes to living wolfishly himself, keeping their hours, sleeping in brief "wolf naps", and closely following the movements of a most attractive wolf family. Much of the book deals with the day to day lives of these distinct personalities, called by the author, George, Angeline, and Uncle Albert, and with the cubs which George and Angeline are raising with the help of Uncle Albert as co-provider and baby-sitter. Many of the widely-credited myths concerning the

viciousness of the wolf, and its wanton killing instincts are exploded, as George and family are revealed to be affectionate, industrious, unaggressive animals, endowed with a decided sense of humour.

With the aid of Ootek, an Eskimo who considers Mowat mad but harmless, and who understands wolf language, the author is able to collect sufficient evidence to prove that wolves, far from depleting the cariboo supply, may actually assist in its preservation. He also discovers that wolves live much of the year on mice and fish. An experiment, conducted on himself, to decide the nutritive value of mice produces a most interesting recipe for "Creamed Mouse"!

Farley Mowat is one of the few authors who writes of the Canadian North, always treating the land, the people and the animals with sensitivity, understanding, and humour. In "Never Cry Wolf" he once again makes an eloquent plea for sympathetic and intelligent consideration on the part of governments and individuals, this time for that beneficial and much maligned beast, the wolf.

S. P.

TRAITS OF A REAL HUNTER

A real hunter is also a sportsman and a conservationist, careful with fire, not cutting trees unnecessarily — and not killing birches by stripping their bark. Of this latter offense, Dr. W. H. Britain, curator of the Morgan Arboretum here at Macdonald College, writes: "Wives there be who kill their husbands, putting poison in their tea. "Men there be who slay their women, push them overboard at sea. "But the meanest of the wretches, though through all the world you search, "Is the lout, devoid of feeling, who would peel a silver birch."

PIG STRETCHING

The British have come up with a way of getting more muscle and less fat per hog. Still in the experimental stage, here's the method. Knowing a pig's fondness for food, the feed trough is elevated enough to make the pigs stretch to reach food. This involves using the muscles, hence more muscle and less fat. Beginning when the pigs are small, troughs are elevated as the pigs grow, keeping them always at "stretching level." After a trial observation period, comparisons will be made between the stretched pigs and ones eating at normal levels. It is hoped to add as much as 5% more meat per hog.

DORVAL OATS — A NEW VARIETY

The licensing of a new variety of oats called DORVAL has been announced. This is a variety developed by the Quebec Oat Project Group from a cross between Ajax and Shefford, made at Macdonald College in 1951.

Dorval is a medium late maturing variety that is expected to replace Roxton. It matures about two days later than Garry. In tests throughout Quebec, Dorval has outyielded Glen by ten percent and other varieties by even more. It has also yielded very well in trials in Eastern Ontario and in the Maritime provinces.

In addition to its yielding ability, Dorval has a very good grain quality. In hull content, it runs two to three percent lower than Glen or Garry, but not quite as low as Roxton. It has a smaller grain than Glen, but slightly larger grain than Garry.

Dorval has no resistance to the common races of rust, but this is not a serious problem in most areas of Quebec. It is resistant to covered smut.

In trials throughout Eastern Canada, the ability of Dorval to resist lodging has been similar to that of Garry, although its straw is generally about two inches longer than that of Garry.

Basic seed stocks of Dorval will be increased on the Provincial Seed Farm at Macdonald College this year, and seed for general distribution will be available in the Spring of 1965. Dorval will be included in the Recommended List of the Quebec Seed Board for 1965.

WELCOME VISITORS

Welcome visitors to the Macdonald College exhibit at the Ottawa Valley Farm Show were Mr. and Mrs. Fred Ritchie, now retired and living near Aylmer, Quebec.

Mr. Ritchie, a 1914 Macdonald graduate, was on the staff of the Lennoxville Research Station for five years. Later he became assistant Dominion Horticulturist at Ottawa.

FROM TREE TO YOU

Cornell University is conducting harvesting tests in which apples are picked directly into consumer cartons. This system eliminates any handling after picking. Pickers are trained to "spot-pick" or sort as they pick so that fruit can be moved clear on to the supermarket in the cartons used in picking. This method, according to tests, offers lower marketing costs, faster distribution, larger store volume and better-quality fruit.